In the Claims

1. (Previously presented) A power injector system for use with a magnetic resonance imaging system installed at least in part within an electromagnetic interference shielded room electrically accessible via a penetration panel, the power injector system comprising:

a power head adapted for operation within the shielded room to controllably inject a compound into a patient;

power supply for operation outside the shielded room to receive utility electrical power; and

a power connection configured to couple electrical power through the penetration panel between the power supply outside of the shielded room and the power head for actuating the power head, the power connection comprising a radio frequency filter reducing radio frequency electrical energy carried through said power connection.

2. (Previously Presented) The power injector system of claim 1, further comprising

a control panel for generating data signals to control said power head adapted for operation outside the shielded room;

said power connection further coupling said data signals from said control panel to said power head for controlling said power head.

3. (Previously presented) A method of converting a battery-powered magnetic resonance (MR) injector system in a shielded magnet room to a remotely powered MR injector system, the method comprising:

placing a power supply outside of the shielded magnet room, the power supply coupled to an AC outlet for electrical power;

providing shielded cables having conductors adapted for electrical power transmission and further adapted for carrying data signals, wherein one cable positioned outside the magnet room couples the power supply to a penetration panel and the other cable positioned inside the magnet room couples to the penetration panel to be in communication with the MR injector system,

providing a radio frequency filter reducing radio frequency electrical energy carried through at least one conductor of at least one of said shielded cables; and

modifying a MR injector system in said shielded magnet room to electrically couple power transmission from conductors of the shielded cables to conductors for receiving battery power in said MR injector system.

4. (Previously Presented) The method of claim 3, further comprising:

in the power supply, relaying data signals from a console in the control room to the shielded cable.

5. (Original) The method of claim 3, further comprising:

in the power supply, coupling AC electrical power from an AC outlet to an AC outlet externally mounted on the power supply for powering the console.

6. (Original) The power injector system of claim 1, wherein said radio frequency filter is incorporated within said penetration panel.

7. (Previously Presented) The method of claim 3, wherein said radio frequency filter is incorporated within said penetration panel.

8. (New) The power injector system of claim 1, wherein the power head comprises an electro-mechanical device, and the power connection is configured to actuate the electro-mechanical device.

9. (New) The power injector system of claim 8, wherein the power head comprises an ultrasonic motor, and the power connection is configured to actuate the ultrasonic motor.

10. (New) The power injector system of claim 1, wherein said radio frequency filter grounds conductive shields included within said power connection.

11. (New) The power injector system of claim 1, wherein said radio frequency filter attenuates RF noise within a rejection frequency band selected to correspond to the RF frequencies used by said magnetic resonance imaging system.

12. (New) A medical imaging suite comprising:

a shielded room having walls that include electromagnetic shielding;

an AC power outlet located outside the room;

a magnetic resonance imaging system comprising a magnet that is located inside the room; and

a power injector system comprising:

a power head located inside the room;

a power supply located outside the room, the power supply accessing and receiving power from the AC power outlet; and

a power connection configured to convey electrical power from the power supply, through a wall of the room, and to the power head, wherein the power connection comprises radio frequency filter.

13. (New) The imaging suite of claim 12, wherein the power head comprises an electro-mechanical device, and the power connection is configured to provide power to the electro-mechanical device.

14. (New) The imaging suite of claim 12, wherein the power head comprises an ultrasonic motor, and the power connection is configured to provide power to the ultrasonic motor.

15. (New) The imaging suite of claim 12, further comprising a control panel located outside the room for generating data signals to control said power head;

said power connection further configured to convey data signals from said control panel to said power head for controlling said power head.

16. (New) The imaging suite of claim 12, wherein said radio frequency filter grounds conductive shields included within said power connection.

17. (New) The imaging suite of claim 12, wherein said radio frequency filter attenuates RF noise within a rejection frequency band selected to correspond to the RF frequencies used by said magnetic resonance imaging system.